



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,954	10/22/2001	Gurtej Sandhu	M4065.0353/P353-A	8784

24998 7590 06/09/2003

DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L STREET NW
WASHINGTON, DC 20037-1526

EXAMINER

MOORE, KARLA A

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 06/09/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application N .

09/982,954

Applicant(s)

SANDHU ET AL.

Examiner

Karla Moore

Art Unit

1763

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 22 May 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See "Other" below.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 1-17, 46 and 47.

Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☒ Other: See Continuation Sheet

GREGORY MILLS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Continuation of 10. Other:

In response to Applicant's arguments,

1. The two showerheads, 136 and 138, indicate two different processing regions. While the prior art does not use the exact same language as the present Application, one of ordinary skill in the art would recognize with two separate showerheads, two processing can be formed with each region capable of a different process.
2. Admittedly, McInerney describes his apparatus as capable of processing using two incompatible gases. However, this would not preclude one from using two gases that are "compatible". There are no teachings that teach against using two "compatible gases". Further, McInerney teaches that his apparatus is capable of processing "incompatible" gases because the apparatus comprises means for separating the adjacent processing regions. This is also the concern of the present application. Therefore one would be inclined to look to McInerney for separation means, contrary to Applicant's argument.
3. Applicant argues that because using multiple processing chambers increases throughput, one would not be inclined to use the apparatus of McInerney for diffusion, as claimed. One of ordinary skill in the art would recognize that throughput is not the only parameter to be maximized in processing apparatus such as McInerney and the present invention. One of ordinary skill in the art would also consider other parameters such as quality of the substrate produced and would aim for a balance between these two parameters in substrate processing. In some case, multiple processing chambers are necessary, as is well known in the art.
4. At column 8, rows 36-46, McInerney teaches that the inert gas curtain does in fact assist in maintaining separation of reaction gases, contrary to Applicant's interpretation of the reference.
5. As noted in the previous office action, Fong teaches transferring a substrate to a separate processing region to drive in dopants at column 41, row 61 through column 42, line 12. Fong teaches that there are alternatives for the processing step of driving in dopants. One of them is transferring a substrate to a different region.
6. Applicant further argues that Gattuso is not combinable because of its teaching that "a significant amount of inert gas within the chamber can interfere with the deposition process". The gas curtain of McInerney is supplied between each of the stations. It only "interacts" or "interferes" to the extent that it separates any gas that may have migrated out of a station. It does not interfere with the deposition process. Additionally, McInerney fails to teach that a "significant" amount of gas must be used to form the inert gas curtain.
7. Applicant also argues that providing an inert gas curtain at a higher pressure than the reaction gases in McInerney would annul the pressure gradient of the vertically flowing reaction gases and prohibit the gases from being exhausted through the exhaust port. Again, Examiner disagrees, an inert gas curtain is provided at a location adjacent to the reaction gases to effect separation, the inert gas curtain does not interfere with the vertical pressure gradient formed by downwardly flowing reaction gases it was meant to separate.
8. Applicant's argument with respect to the use of a "non-reactive" gas versus a "reactive" gas versus an "incompatible" gas are based on an intended use. The apparatus of McInerney is not structurally different as mentioned in the previous office action.
9. With respect to Applicant's argument that Hartig is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, similar to McInerney and Gattuso, Hartig is a multiple station processing apparatus, concerned with separation of adjacent stations and the processing gases contained therein. With respect to Applicant's argument that McInerney teaches away from separate exhaust ports, Examiner disagrees. Admittedly, McInerney does not teach separate exhaust ports. However, "not teaching" a feature is not the same as "teaching away" from a feature. McInerney provides no reason why providing separate exhaust ports would ruin the invention.